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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,986	12/27/2006	Apostolos Katefidis	OST-061078	9024

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EXAMINER	
LU, JIPING	
ART UNIT	PAPER NUMBER
3743	

MAIL DATE	DELIVERY MODE
11/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,986	KATEFIDIS ET AL.	
	Examiner	Art Unit	
	Jiping Lu	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/21/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4, 7-10, 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru (EP 0568822 A2) in view of Huh (KR 2003075939A).

Ishimaru shows a system and a method for drying objects comprising a drying cubicle 6, a heating device 10 which heats the hot air 26a introduced into the drying cubicle 6, wherein the heating device includes at least high temperature fuel cell 10 the process waste air 19 from which can be fed to the drying cubicle 6 as hot air. There is a control system 47 to operate the fuel cell 10 and supplying electrical energy to other consumers (see Fig. 2). However, Ishimaura does not expressly teach the concept of feeding process waste air of the fuel cell directly to a drying cubicle in which the objects are exposed to hot air and a control system which operates the fuel cell regardless of the electrical energy generated thereby that the thermal energy generated thereby meets the requirement in the drying cubicle. Huh et al. shows a system for drying objects comprising a drying cubicle 20 including at least one section in which the objects are exposed to hot air; a heating device 10 which heats the hot air introduced into the drying cubicle 20, wherein the heating device includes at least one high temperature fuel cell the process waste air 30 from which can be fed to the drying cubicle 20 as hot air; there is provided a control system 40 which so operates the high temperature fuel cell regardless of the electrical energy generated thereby that thermal energy generated thereby meets the requirement in the drying

cubicle 20. Therefore, it would have been obvious to one skill in the art at the time the invention was made to modify the system of Ishimaru to direct or feed process waste air of the fuel cell directly to a drying cubicle and to control the supplying of the thermal energy regardless of the electrical energy generated as taught by the Huh patent in order to recover waste heat and to more effectively reduce the loss of energy. As for the limitations in claims 2-4 and 15-18, they are viewed as functional or intended use limitations. As MPEP 2114 states, "[a] claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim". In this case, the limitations above do not add any structural limitations to the claim and the system of Ishimaru as modified by Huh et al. discloses all the structural limitations. In particular, claims 15-18 merely call for the control system uses the electrical energy "for" infrared radiators or electrical drives. In the claims, there is no structure provide "for" such intended uses. Therefore, it is deemed to be merely an intended use of the electrical energy "for" infrared radiators or electrical drives in Ishimaru patent.

3. Claims 5, 6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru (EP 0568822 A2) in view of Huh (KR 2003075939A) as applied to claims 5, 7 as above and further in view of Thompson (U.S. Pat. 5,983,521).

The system of Ishimaru as modified by Huh et al. as above includes all that is recited in claims 5, 6, 11 and 12 except for a post combustion device for purify the hydrocarbon and waste heat recovery system. Thompson shows a post combustion device 12 for purifying the hydrocarbon and waste heat recovery system 44, 46 same as claimed. Therefore, it would have

been obvious to one having ordinary skill in the art at the time the invention was made to further modify the system and method of Ishimaru to include a post-combustion device or afterburner and waste heat recovery as taught by Thompson in order to improve exhaust air quality.

Response to Arguments

4. Applicant's arguments with respect to claims field on 7/21/08 have been considered but are not persuasive to overcome the rejection. On pages 6-7 of the Remarks, the applicant argued that the patents to Ishimaru and Huh failed to suggest the claimed features. The examiner disagrees. Ishimaru shows a system and a method for drying objects comprising a drying cubicle 6, a heating device 10 which heats the hot air 26a introduced into the drying cubicle 6, wherein the heating device includes at least high temperature fuel cell 10 the process waste air 19 from which can be fed to the drying cubicle 6 as hot air. There is a control system 47 to operate the fuel cell 10 and supplying electrical energy to other consumers (see Fig. 2). Huh et al. shows a system for drying objects comprising a drying cubicle 20 including at least one section in which the objects are exposed to hot air; a heating device 10 which heats the hot air introduced into the drying cubicle 20, wherein the heating device includes at least one high temperature fuel cell the process waste air 30 from which can be fed to the drying cubicle 20 as hot air; there is provided a control system 40 which so operates the high temperature fuel cell regardless of the electrical energy generated thereby that thermal energy generated thereby meets the requirement in the drying cubicle 20. Therefore, it is the examiner's position that it would have been obvious to one skilled in the art to modify the system of Ishimaru to direct or feed process waste air of the fuel cell directly to a drying cubicle and to control the supplying of the thermal energy regardless of

the electrical energy generated as taught by the Huh patent in order to recover waste heat and to more effectively reduce the loss of energy. In view of this combined teaching of the prior art references, one skilled in the art would have found it to be obvious to combine because to direct or feed process waste air of the fuel cell directly to a drying cubicle and to control the supplying of the thermal energy regardless of the electrical energy generated would have been predictable (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007). Lastly, on pages 7-8 of the Remarks, the applicant argued that the patents to Ishimaru, Huh and Thompson failed to suggest the claimed features as stated in claim 1. The examiner disagrees for the same reasons as set forth in the rejection above.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KENNETH RINEHART can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jiping Lu/
Primary Examiner
Art Unit 3743

J. L.